

# FACULTY newsletter

CPMS Physical and Mathematical Sciences



ABOVE Meghan DeWitt

Erin Oveis

## New Faculty Spotlight: Meghan DeWitt

The College of Physical and Mathematical Sciences welcomes Meghan DeWitt as a new assistant professor to the Department of Mathematics.

DeWitt completed her undergraduate coursework at BYU in 2006 with a degree in mathematics. She earned her PhD at the University of Wisconsin - Madison, in 2011. She spent the last year teaching at the University of Central Oklahoma and will begin her faculty position at BYU fall semester.

In her new position at BYU, DeWitt will teach calculus 2 and abstract algebra. She hopes to help her students see the beauty in mathematics—something she observes regularly in the world around her.

"To me, everything I see is math," she said. "I find patterns and coincidences in nature. I can pretty much apply it to everything in my life. No one usually cares about how to compute a logarithm, but if you can tell them about figuring out why there are a certain number of petals on a flower, then all of a sudden they are interested because it is applicable in life."

But what about those students who have a less than positive attitude toward the subject? DeWitt knows just how they feel.

"I used to hate math," she said. "I had the worst math teachers for about four or five years in a row. But then my junior year of high school, I was taking AP Calculus and I had the best teacher I ever had in my life. He was an amazing teacher—very motivating, friendly and supportive. He made me fall in love with it."

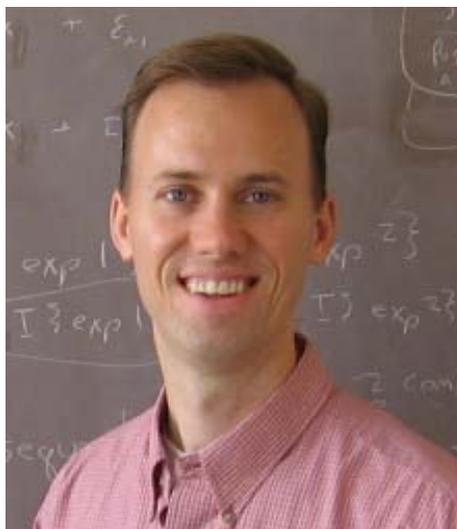
DeWitt believes a quality teacher can make all the difference and wants to model her educators' examples in her own teaching at BYU.

"The best teachers I've had are the ones that make it so their students are comfortable coming to them even if it's not about the homework or the next exam," she said. "To make yourself available to them if they want to talk about something that fascinates them, because that's really how you get students interested in that subject. It's just wonderful to be with inquisitive students and see their zest for life and learning and to help them with that."

Outside of the classroom, DeWitt enjoys music and reading.

"I like to play the piano, the cello, the organ, and various other things," she said. "And then I usually end up reading for several hours each night."

by: Stacie Carnley



ABOVE David Dahl

David Dahl

## New Faculty Spotlight: David Dahl

The College of Physical and Mathematical Sciences welcomes David Dahl, a new associate professor in the Department of Statistics.

Dahl graduated from BYU with a bachelor's degree in statistics in 1997 and his master's one year later. In 2004, Dahl earned his doctorate from the University of Wisconsin-Madison. Upon completing his PhD, Dahl was hired at Texas A&M as an assistant professor where he has taught for the past eight years. Now, returned to BYU, Dahl will teach Statistics 121 beginning fall semester.

Originally from Davis, California, Dahl took his first BYU statistics course

as a way to spend more time with his sister.

"My sister needed to take an introductory statistics class to get into the accounting program," he said. "I had just returned from my mission, and I thought it would be a fun class to take with her; plus it counted for some GE requirements."

At his first taste of probability and prediction, Dahl was hooked.

"From that [class] I really got excited about statistics," he said. "I thought it was neat that you could make decisions in the face of uncertainty. That even when you didn't know something for sure, you were able to quantify your

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## Dates to Remember

### Commencement

Thursday, Aug. 9  
4 p.m., Marriott Center

### College Convocation

Friday, Aug. 10  
8 a.m., Ballroom WSC

### AUC College Meeting

Wednesday, Aug. 22  
10 a.m., W111 BNSN

### Learning Suite Training

Wednesday, Aug. 22  
1 p.m., 1149 TMCB

### TA Training Conference

Friday, Aug. 24  
8 a.m., 1102 JKB

### New Student Orientation

Friday, Aug. 24  
1-3 p.m., W111 BNSN

## College Grants

### Chemistry and Biochemistry

[Paul Savage](#)

Sponsor: Vanderbilt (NIH)

Title: Multifunctional Nanoparticles for  
Image-Guided Vaccine Delivery in  
Cancer

### Computer Science

[Mark Clement](#)

Sponsor: Boston U (NIH)

Title: Statistical Tools and Methods for  
Next Generation Sequencing  
Delivery in Cancer

[Quinn Snell and Mark Clement](#)

Sponsor: NSF

Title: Statistical Tools and Methods for  
Next-Generation Sequencing

### Mathematics

[Denise Halverson](#)

Sponsor: NSF

Title: EFRI-ODISSEI: Uniting Principles  
of Folding and Compliant  
Mechanisms to Create  
Engineering Systems with  
Unprecedented Performance

### Mathematics Education

[Dawn Teuscher](#)

Sponsor: ASU (NSF)

Title: Pathways to Calculus:  
Disseminating and Scaling a  
Professional Development Model

## Meet Learning Suite

CPMS faculty are invited to become acquainted with BYU's Learning Suite! The Center for Teaching and Learning will have a training session for CPMS faculty on August 22, at 1:00 p.m. in room 1149 of the TMCB. The meeting will prepare professors for fall semester by providing an opportunity to navigate the program and organize class materials with assistants standing by to answer questions.

"It's not a lecture," Associate Director of Learning Suite, Jeff Fox said. "Our goal for the meeting is to find out where each professor is at and answer their questions."

Faculty new to the system, as well as those who have used Learning Suite for previous courses, will benefit from the chance to refine their classes in preparation for fall classes.

"I encourage those who attend to bring their syllabus and other course materials," Fox said. "Implementation assistants will be there to not only show them how to use the system, but to assist in specific work like building an exam. We can sit with them, do it with them, and get their course up and running."

With up to 25 assistants, the hour-long session will give faculty a jump-start with their fall courses.

"Come with your questions and we'll try and get you further down the road than you were before you walked in," Fox said.

by: Stacie Carnley



## David Dahl continued from page 1

uncertainty and move forward."

Quoting Princeton's famous statistician John Tukey, Dahl said the best part of being a statistician is that you get to play in everybody's backyard.

"We as statisticians have mathematical skills which we can apply to a variety of disciplines," Dahl said. "One day I can play in the chemist's backyard, and another day I can work on finance. And currently what I'm doing is playing in the backyard of biochemists."

Dahl's research includes predicting the three-dimensional structure of proteins.

"Structure dictates a protein's function," he said. "Because knowing the function of a protein is very important, knowing the structure is very important as well. Statistical models help us to discover the structure and, thereby,

influences on treatments for various diseases."

In his free time, Dahl enjoys spending time with Lisa, his wife of 15 years, and their five kids, and playing various sports.

by: Stacie Carnley

# College Publications

## Chemistry and Biochemistry

D. Devarajan, T.B. Gunnoe, [D.H. Ess](#), "Theory of Late-Transition-Metal Alkyl and Heteroatom Bonding: Analysis of Pt, Ru, Ir, and Rh Complexes", *Inorganic Chemistry*, 2012, Volume 51/Issue 12, pp. 6710-18

D. Devarajan, [D.H. Ess](#), "Metal-Mediated Dihydrogen Activation. What Determines the Transition-State Geometry?", *Inorganic Chemistry*, 2012, Volume 51/Issue 11, pp. 6367-75

[D.H. Ess](#), T.C. Cook, "Unrestricted Prescriptions for Open-Shell Singlet Diradicals: Using Economical Ab Initio and Density Functional Theory to Calculate Singlet-Triplet Gaps and Bond Dissociation Curves", *The Journal of Physical Chemistry A*, 2012, Volume 116/Issue 20, pp. 4922-29

[D.H. Ess](#), "Transition-Structure Catalog of Organic Reactions", *Journal of Chemical Education*, 2012, Volume 89/Issue 6, pp. 817-18

D. Jiang, Z. Jin, [D. Henderson](#), J. Wu, "Role of Polar Solvent in Dependence of Capacitance on Pore Size", *Journal of Physical Chemistry Letters*, 2012, Volume 3/Issue 13, pp. 1727-31

## Computer Science

[Michael A. Goodrich](#), Mark Colton, Bonnie Brinton, Martin Fujiki, J. Alan Atherton, Dan Ricks, Margaret Hansen, Aersta Acerston, Lee Robinson, "Incorporating a Robot into an Autism Therapy Team", *IEEE Intelligent Systems*, 2012, Volume 27/Issue 2, pp. 52-59

## Mathematics

Sebastian Acosta, [Vianey Villamizar](#), Bruce Malone, "The DtN Nonreflecting Boundary Condition for Multiple Scattering Problems in the Half-Plane", *Computer Methods in Applied Mechanics and Engineering*, Volumes 217-20, 2012, pp. 1-11

[R. Baker](#), "Primes in Arithmetic Progressions to Spaced Moduli", *Acta Arithmetica*, 2012, volume 153/issue 2, pp. 133-59

[D. Doud](#), [P. Jenkins](#), J. Lopez, "Two-DWivisibility of the Coefficients of Certain Weakly Holomorphic Modular Forms", *The Ramanujan Journal*, 2012, Volume 28/Issue 1, pp. 89-111

R. E. Wagner, S. Acosta, [S. A. Glasgow](#), Q. Su, R. Grobe, "Quantum Fluctuations in the Dressed Vacuum of a Bosonic Model System", *Journal of Physics A: Mathematical and Theoretical*, 2012, Volume 45/Issue 27

